

Title (en)  
Polymer electrolyte fuel cell

Title (de)  
Polymerelektrolyt-Brennstoffzelle

Title (fr)  
Pile à combustible à électrolyte polymère

Publication  
**EP 1450432 A2 20040825 (EN)**

Application  
**EP 04003796 A 20040219**

Priority  
• JP 2003043004 A 20030220  
• JP 2003108880 A 20030414

Abstract (en)  
The invention aims at providing a fuel cell capable of highly efficient and stable operation, by eliminating the flooding caused by condensed water and generated water during low-load operation, and by inhibiting the increase in the pressure drop at high loads. A fuel cell that does not flood, particularly during low-load operation, in accordance with the invention is realized by forming multiple independent gas flow channels having independent inlet-side and outlet-side manifold holes in the separator surface, and by connecting these in series or in parallel. This connection can be obtained through switching means characterised in that: the inlets and outlets of such switchable channel means are maintained in both operational modes in a manner that in both operational modes the switchable channel means are fed by their fluid in the same direction of circulation.

IPC 1-7  
**H01M 8/24**; **H01M 8/02**

IPC 8 full level  
**H01M 8/02** (2006.01); **H01M 8/04** (2006.01); **H01M 8/10** (2006.01); **H01M 8/24** (2006.01); **H01M 4/92** (2006.01)

CPC (source: EP US)  
**H01M 4/926** (2013.01 - EP US); **H01M 8/026** (2013.01 - EP); **H01M 8/0263** (2013.01 - EP US); **H01M 8/0267** (2013.01 - EP US); **H01M 8/241** (2013.01 - EP); **H01M 8/2457** (2016.02 - EP US); **H01M 8/2483** (2016.02 - EP US); **H01M 8/2484** (2016.02 - EP US); **H01M 8/2485** (2013.01 - EP); **H01M 8/0206** (2013.01 - EP US); **H01M 8/0213** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP)

Cited by  
DE102013021628A1; US7691518B2; US7781119B2; WO2009078866A1; WO2004102708A3

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1450432 A2 20040825**; **EP 1450432 A3 20070321**; CA 2458139 A1 20040820; US 2004224206 A1 20041111; WO 2004075326 A1 20040902

DOCDB simple family (application)  
**EP 04003796 A 20040219**; CA 2458139 A 20040219; JP 2004001897 W 20040219; US 78184504 A 20040220